

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of

Sven-Eric LUNNER

Conf. No: 9561

Application No: 10/599,477

Art Unit: 1793

Filed: September 29, 2006

Examiner: Vanessa T.  
Valesquez

For: METHOD IN CONNECTION WITH STEEL  
PRODUCTION

PETITION AGAINST REQUIREMENT FOR RESTRICTION

COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450

Sir:

Applicant petitions against the requirement for restriction that was made in the Office Action mailed July 9, 2008 and was made final in the Office Action mailed January 15, 2009.

The special technical feature that defines a contribution which each of the independent claims, considered as a whole, makes over the prior art is a fluxing agent produced from hydroxide sludge that contains at least one fluoride-containing compound, the hydroxide sludge being calcined. Claim 15 is directed to a method of producing a fluxing agent wherein the raw material for the production of the fluxing agent is a hydroxide sludge. Claim 21 is directed to the fluxing agent as such, produced from a raw material that is a hydroxide sludge, and claim 25 is directed to a method in connection with steel production, wherein a fluxing agent comprising the hydroxide sludge is added to the slag formed on top of the steel heat.

In support of the requirement for restriction, the examiner asserts that Eklund discloses a fluxing agent comprising a hydroxide sludge containing a fluoride compound and that therefore the nature of the fluxing agent, as defined in applicant's claims, does not define a contribution which each of

the inventions, considered as a whole, makes over the prior art. In the Office Action mailed January 15, the examiner asserted that the disclosure at page 5, lines 1-6 of Eklund shows that the material disclosed by Eklund functions in the same manner as a fluxing agent.

A fluxing agent is a material that is added to the contents of a smelting furnace for the purpose of lowering the melting point of the slag and thereby rendering the slag more liquid so that the slag can be removed more easily and the metal thereby purged of impurities. In this context, therefore, the slag is formed in the furnace from the impurities present in the metal that is melted in the furnace.

Eklund discloses a method for recovering metals, such as nickel and chromium, from hydroxide sludge formed by neutralizing and draining pickling fluid. In accordance with the teaching of Eklund, the hydroxide sludge is mixed with an additive containing a substance from Group 14 of the periodic system. The mixture of the sludge and additive form a solidified product. As stated in the paragraph starting at page 4, line 28 of Eklund, the solidified product is then mixed into the steel in a furnace. The metals (nickel and chromium) in the solidified product go down into the steel melt, carbon is given off as carbon dioxide, water is given off as steam, and silicon, oxides, fluorides etc. in the product are taken up in the slag. Eklund also states that the quantity of slag-forming material added to the steel melt can thereby advantageously be reduced, implying that the slag is synthetic slag formed by adding to the melt, to protect either the melt or the furnace, and is not merely waste. Therefore, the operator of the furnace would wish the slag to remain in place and would not wish to lower the melting point of the slag so that the slag can be removed easily from the melt. Since the purpose of adding the solidified hydroxide sludge product to the steel melt is at least partially to augment the slag, applicant submits that a person of ordinary skill in the art would not consider that the solidified product serves as a fluxing agent.

In view of the foregoing, applicant submits that there is a technical relationship among claims 15, 21 and 25 involving the same special technical feature. Therefore, the requirement for restriction should be withdrawn and claims 21-28 should be rejoined.

Respectfully submitted,

/John Smith-Hill/

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